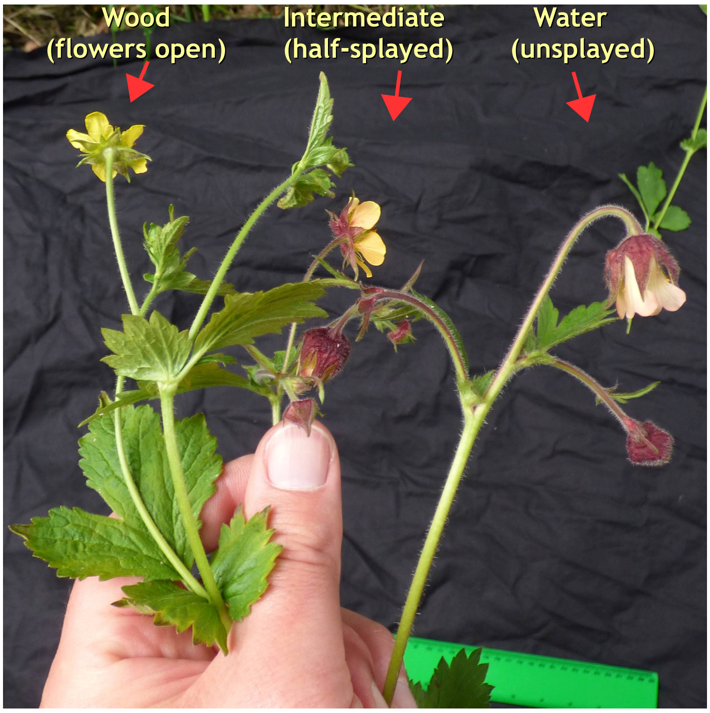
Geum & Dryas (Avens) in Britain & Ireland

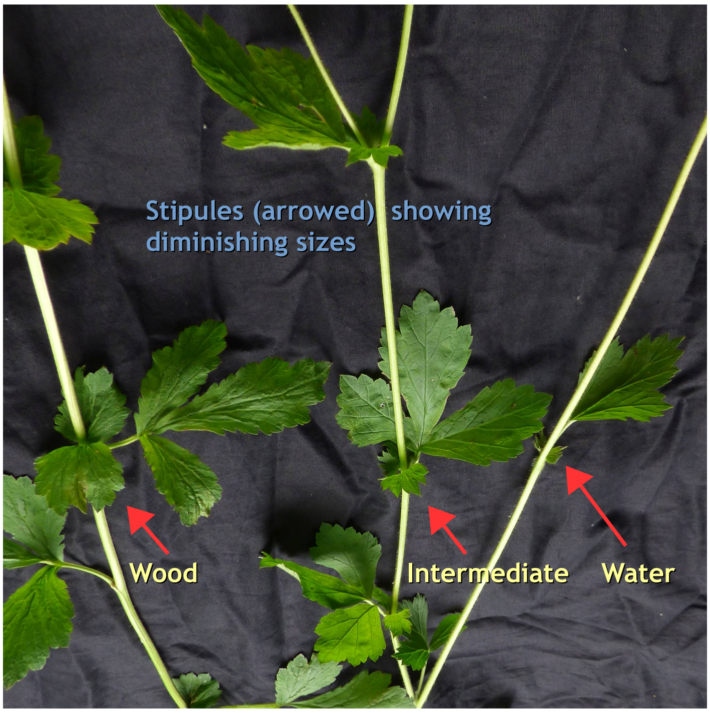
Info : 2022-07-27 ● Contact (FB) ● Latest PDF ● Folder of all Publications

There are three main yellow Geum in Britain, the Wood, Water, and Hybrid, and a white "Mountain Avens" with c. 8 petals. Cultivated Geums that escapee or may do are also outlined.

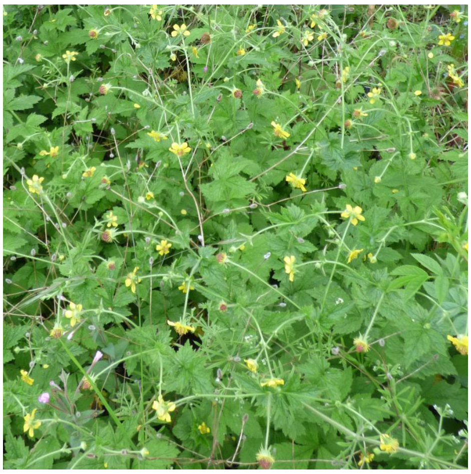
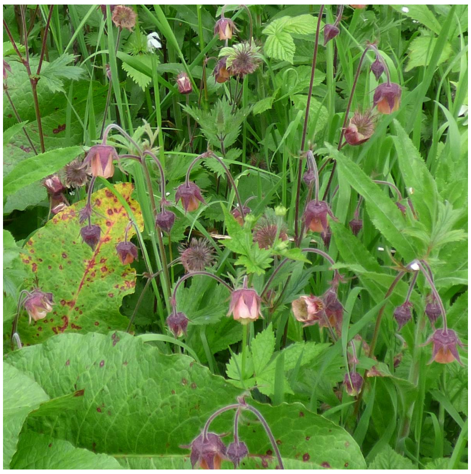
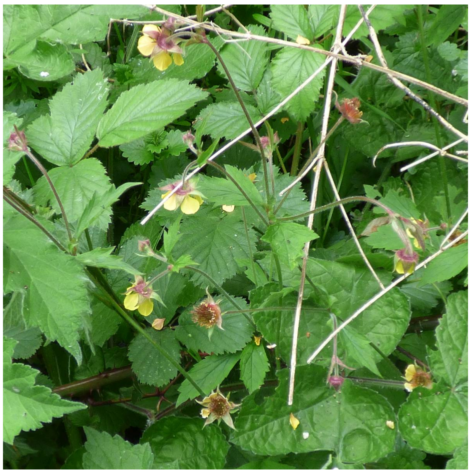
Wood Avens / Herb Bennet	Water Avens	Intermediate Avens
Geum urbanum	Geum rivale	Geum x intermedium
Light shade Ubiquitous ● Map ● Photos	Damp often shady spots V. widespread ● Map ● Photos	Esp. nr Water Avens Common ● Map ● Photos

At a glance

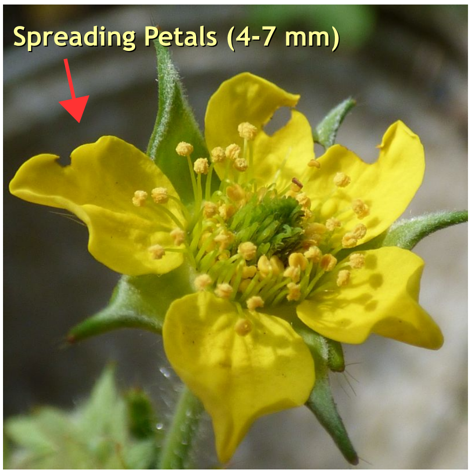
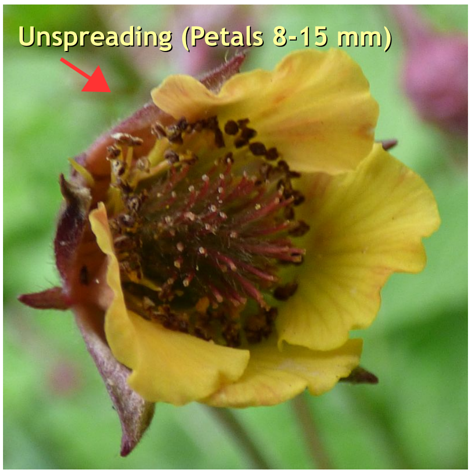
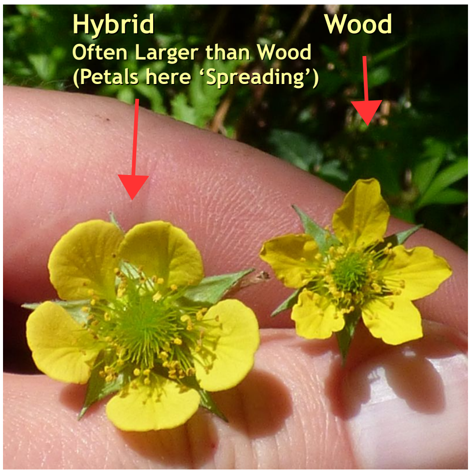
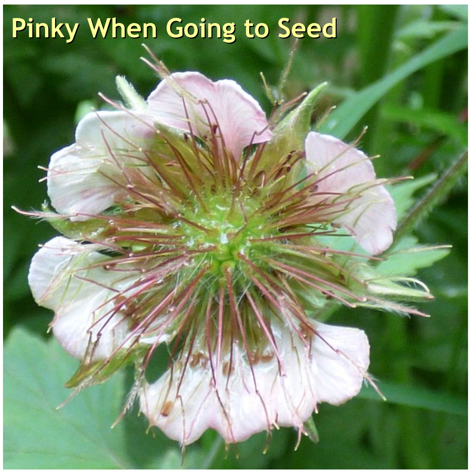
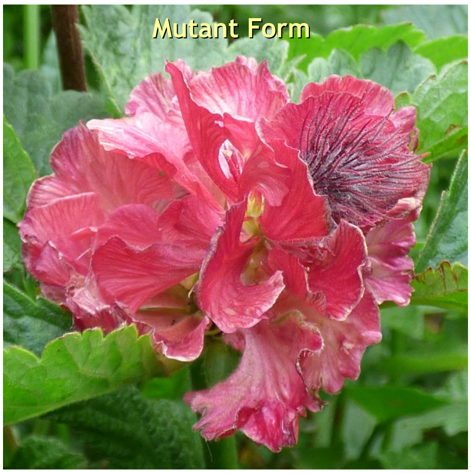




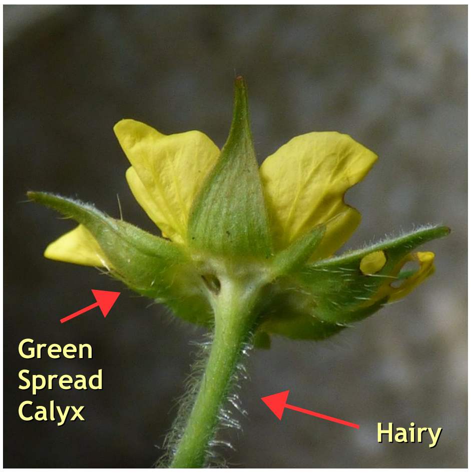
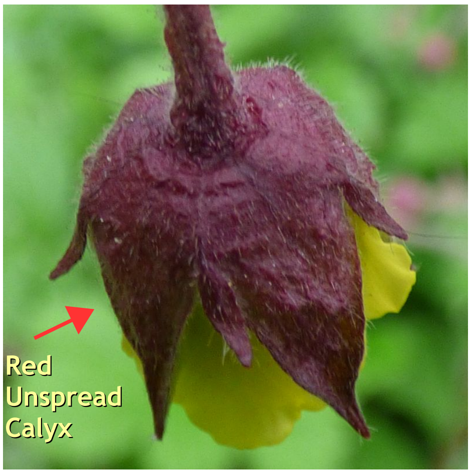
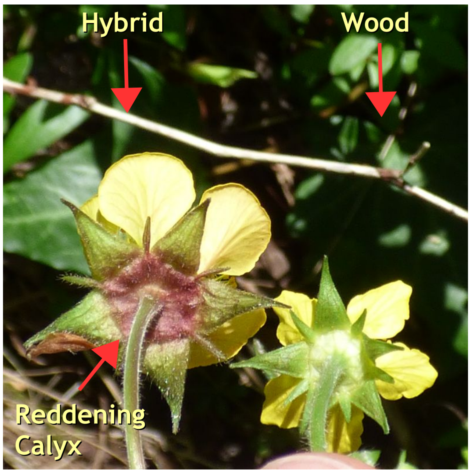
Overview

● Complex presentation ● Flower stalks leaning ● Flowers : Open, not ‘nodding’.	● Simple presentation ● Flower stalks rather upright ● Flowers : Not-open, nodding.	● A mixture of the other two; sometimes errs on the larger flowers (Water), sometimes smaller (Wood).
		

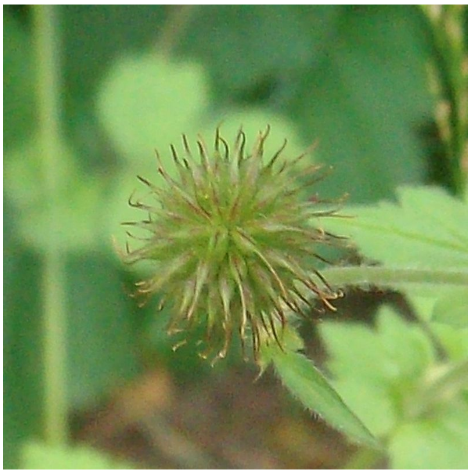
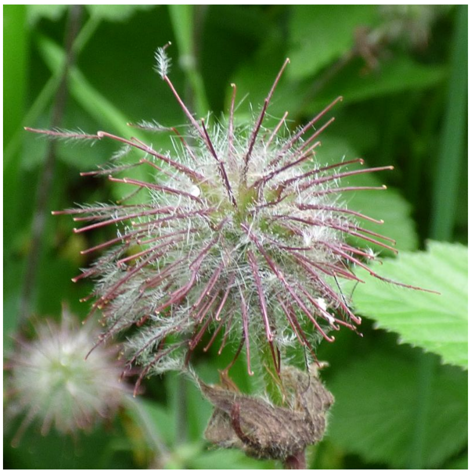
Flower Face

Wood Avens / Herb Bennet	Water Avens	Intermediate Avens
 Spreading Petals (4-7 mm)	 Unspreading (Petals 8-15 mm)	 Hybrid Often Larger than Wood (Petals here 'Spreading') Wood
	 Pinky When Going to Seed	
	 Mutant Form	

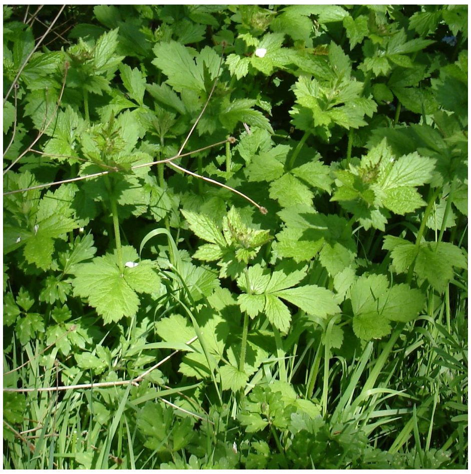
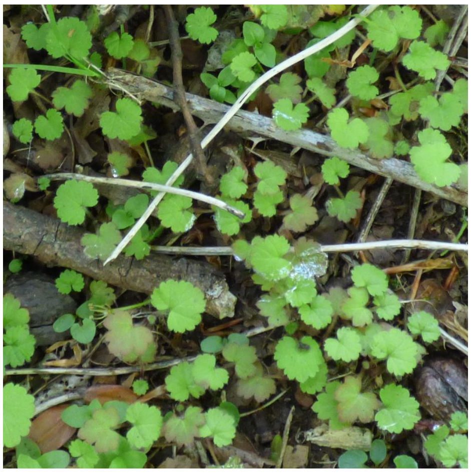
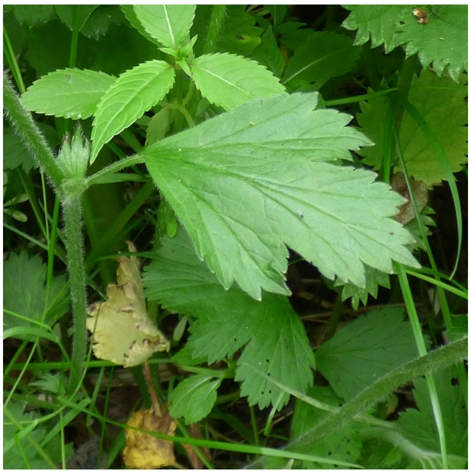
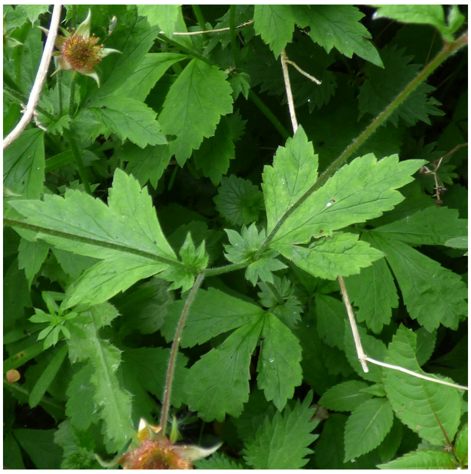
Calyx

Wood Avens / Herb Bennet	Water Avens	Intermediate Avens
		

Seed Heads

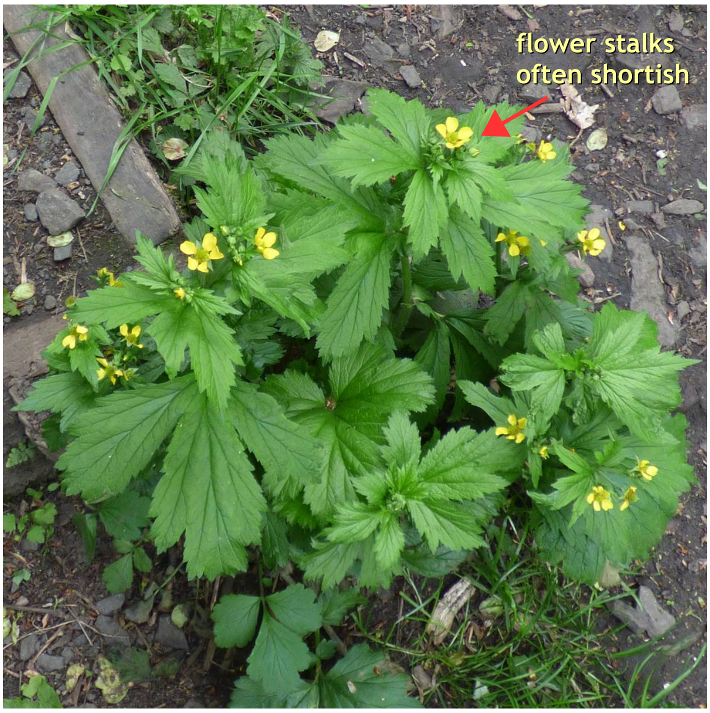
		

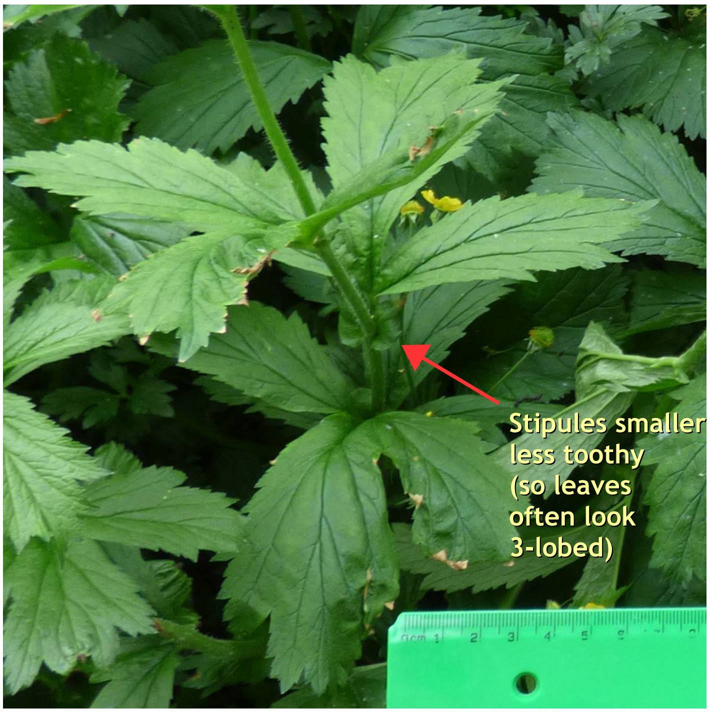
Foliage

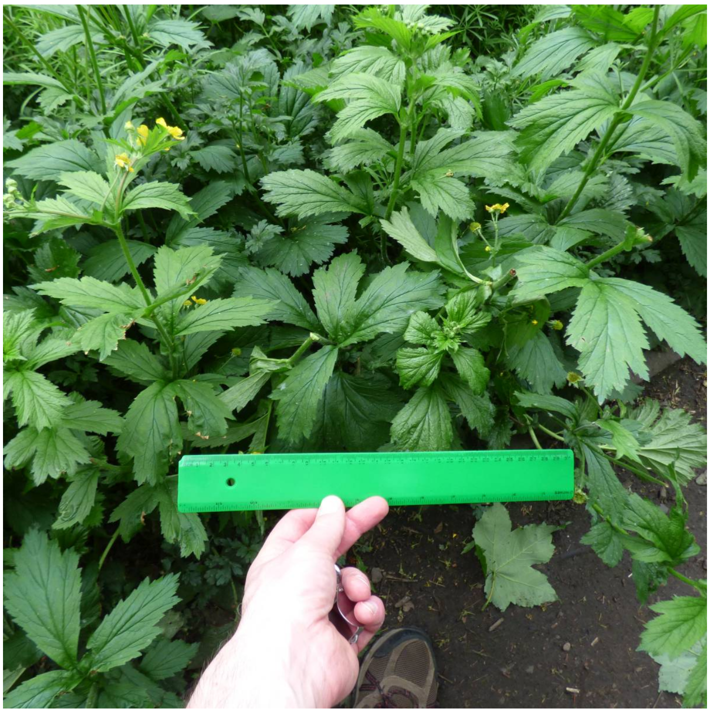
Wood Avens / Herb Bennet	Water Avens	Intermediate Avens
 		

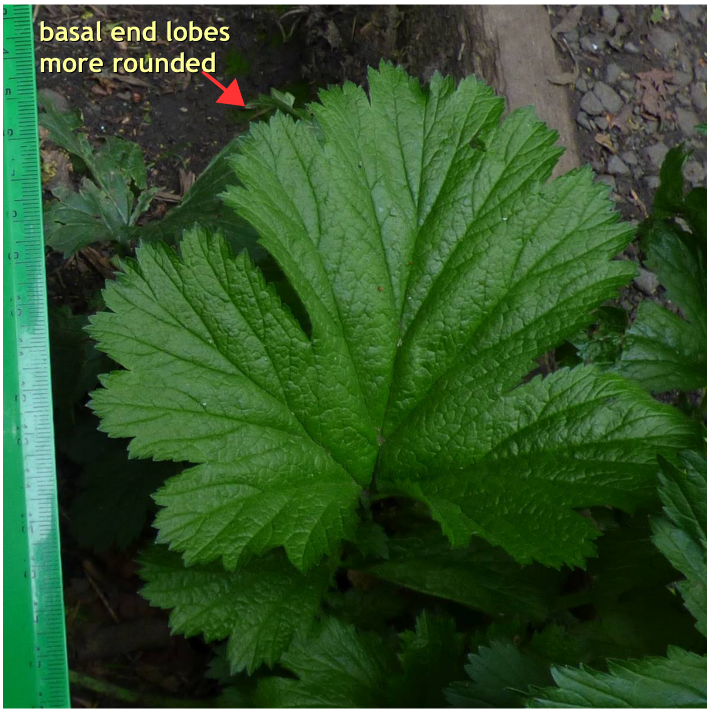
G. macrophyllum (Large-leaved Avens)

Large-leaved Avens - Like Wood Avens; achenes in oblong head (v globose), receptacle sparse short hairs (v dense long hairs) - Geum macrophyllum

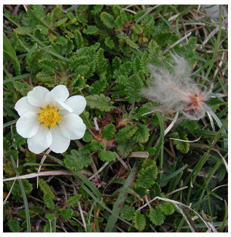








Dryas octopetala (Mountain Avens)



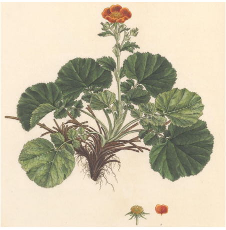
Pic 1 from the nice treatment at ukwildflowers.com . There is a longer description further down this document.

A different genus, Dryas, with c. 8 white petals (not 5 usu. yellow to red) and leaves oaklike and not divided into leaflets, but some similarities and the English name usefully place it next to Geum. Photos ● Map

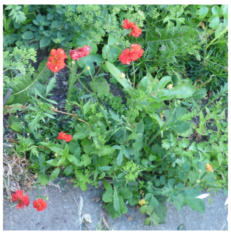
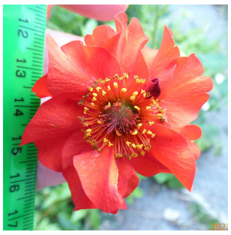
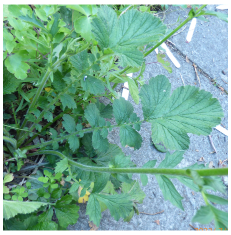
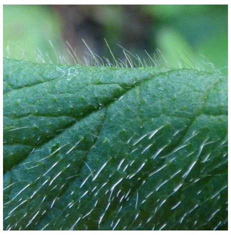
Other Garden Forms (+ records)

RED / STRONG ORANGE open flowers (immature flowers may be yellow! see G. quellyon pic 1)

coccineum - Large round end leaflet (8 cm) with 2-3 pairs of small side leaflets, stems low to 30 cm (see also G. quellyon following). Substantial records in London, far N. Scotland and Shetlands - Photos ● Map ● Illustration -

quellyon (Scarlet Avens) - Similar to G. coccineum but with a few pairs of side leaflets intermixed with many smaller ones (pic 3 below), and flower stems much taller (to 60 cm) - Photos ● Map - a few records ● Illustration & Description & Other Illustrations -

chiloense - A synonym for G. quellyon in books but seems to have its own BSBI records map - Photos ● Map

YELLOW

bulgaricum - like G. rivale the flowers nod and do not splay open, however the end leaflet of the bottom leaves are large 10-15 cm (vs 2-5 cm), the sepals light green (vs red), and the flowers are pale/yellow (vs pale to pink) - Photos.

reptans - low plant with runners, end lobes not much larger than side lobes - 1 record far N Scotland - Photos ● Map

rossii leaves have like Silverweed many narrow leaflet pairs (6-10 pairs) - Photos.

elatum - leaves also with many side lobes (8-12 pairs) which however are not narrow but alternate large and small; terminal lobes not much larger than the - Photos.

montanum - leaf's terminal lobes much larger than the few side lobes (3-6 pairs) - Photos.

WHITE OR CREAM (TO PURPLE)

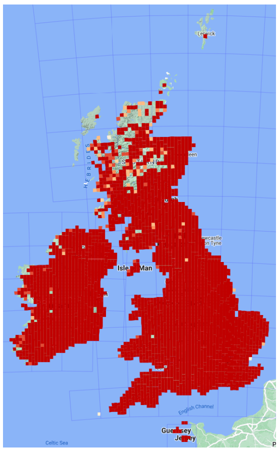
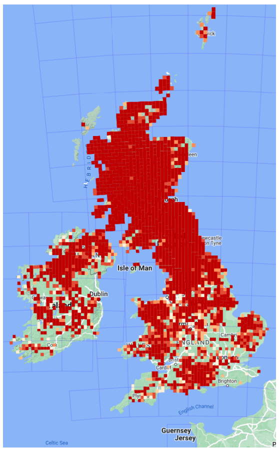
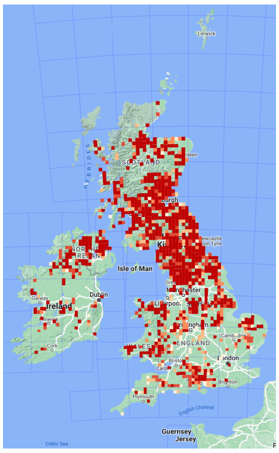
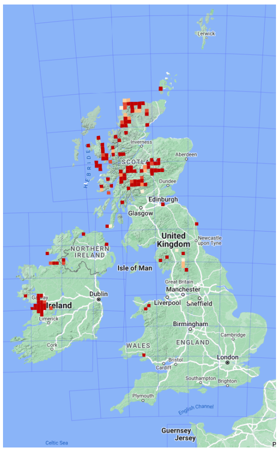
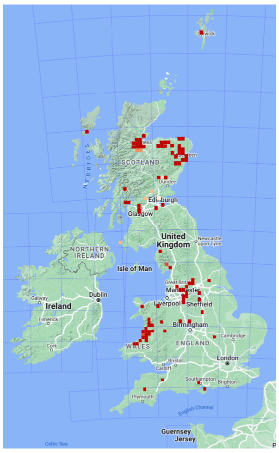
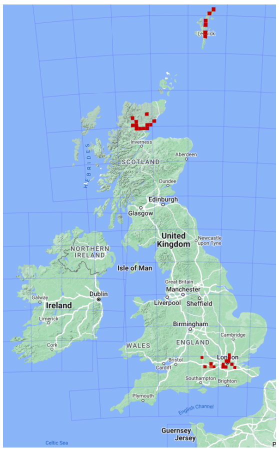
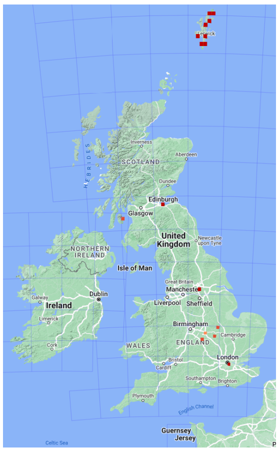
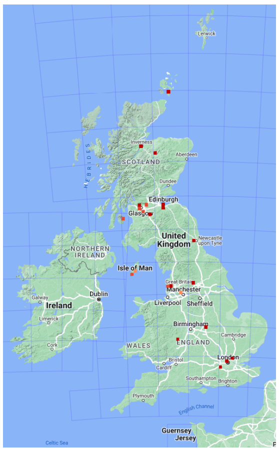
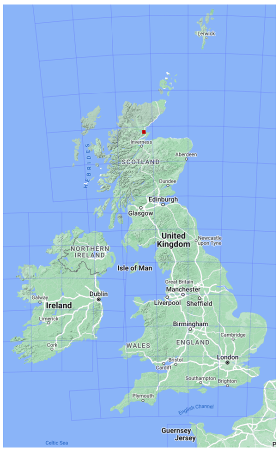
triflorum - leaf end lobe similar to the 7-15 pairs of side lobes, flowers nodding, narrow epicalyx spreads star-like; may be purpled - Photos ● Illustrations.

uniflorum - leaf mostly the large end lobe with 1-2 pairs of small side lobes, creeping; white/cream - Photos.

parviflorum Smith - leaf has a large end lobe but 4-8 pairs of small laterals, non-creeping; white/cream - Photos.

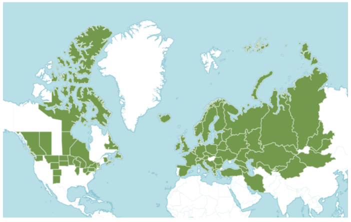
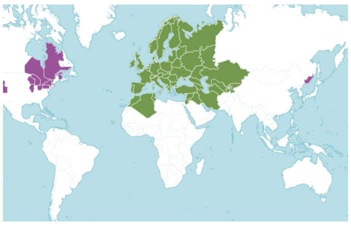
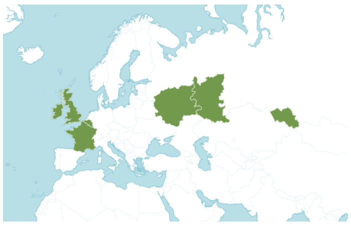
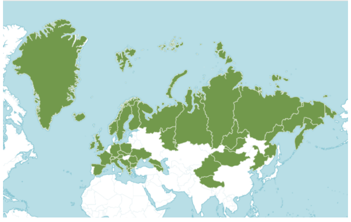
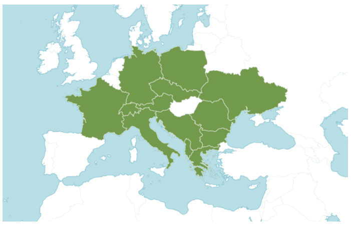
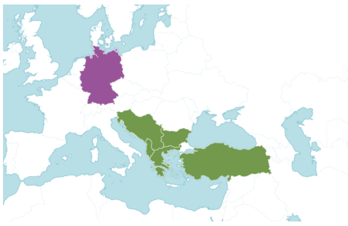
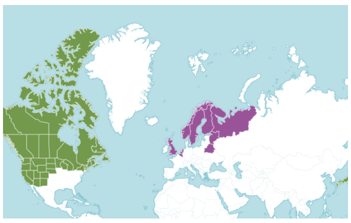
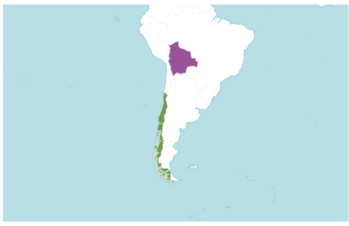
Maps (Britain)

Src BSBI Maps - see map links above for direct interactive links. Yellow and orange headings are prevailing species, blue are escapees.

G. urbanum (Wood Avens)	G. rivale (Water Avens)	G. x intermedium (Interm.)	Dryas octopetala (Mount.)	G. macrophyllum (Large Lf)
				
G. coccineum	G. chiloense (Scarlet Av.)	G. quellyon (Scarlet Av.)	G. reptans (Creeping Avens)	
				

Maps (World)

Origins of the plants recorded in Britain. Click a title link to jump to the source page at Plants of the World (Kew). Note that a species in other parts of the world may be represented by subspecies and forms not in Britain. Yellow and orange headings are prevailing species, blue are escapees.

G. rivale (Water Avens)	G. urbanum (Wood Avens)	G. x intermedium (Intermediate Av)	Dryas octopetala (Mountain Avens)
			
G. reptans (Creeping Avens)	G. coccineum	G. macrophyllum (Large-Leaved Av)	G. quellyon (Scarlet Av =chiloense)
			

Descriptions from Old Books

NOTE that old descriptions may have details that have been revised; however they provide a wealth of observations that might not otherwise be encountered.

G. urbanum (Wood Avens)

1914 Boulger, vol. 2
CXXIV.- THE COMMON AVENS, OR HERB BENNET.
Geum urbanum Linne.

SORDID with the dust of the road in the driest of hedge-banks, in the full glare of the sun, at the outskirts of the town, or holding its own amid a dense vegetation of brambles and ferns in some moist shady lane, or alone in the bare chalk rubble under the dense shadow of a yew-tree on the scarped slope of the downs, this species does not seem particular as to soil, shade, or moisture. It is, by far, the commonest British species of the genus Geum.

Belonging to the Tribe Potentilleae, this genus forms with Dryas the Sub-Tribe Dryadinae, characterised by styles which elongate after the opening of the flower and by a solitary ascending ovule in each carpel. comprises some thirty-six species, natives of Temperate and cold regions in both hemispheres. The name Geum, which is used by Pliny, is derived from the Greek γεύω, geuo, 1 give a relish, from the aromatic clove-like taste of the rhizomes. For the same reason these plants were known to the botanists of the Renaissance as Caryophyllata, which name has been literally translated in the German Nelkenwurz, i.e. “Clove-root.” The rhizomes are very astringent as well as aromatic, and thus served as both preservative and flavouring to beer and wine; and such liquors were considered specially useful against dysentery, and also apparently against poison. It is related of St. Benedict that when a monk handed to him a cup of poisoned wine and he blessed it the cup broke in pieces; and from this story this plant got the names of Herba Benedicti, our Herb Bennet, and the German Benedicten-kraut. These names were at an early date misunderstood, Herba Benedicti being taken for Herba benedicta, “Benedict’s herb” for “Blessed herb.” Thus the twelfth-century physician Matthaeus Platearius is quoted as writing :- “Where the root is in a house the devil can do nothing, and flies from it; wherefore it is blessed above all other herbs, no venomous beast can hurt the carrier, or approach it when growing.”

In the “Ortus Sanitatis,” printed in 1491, in which this quotation occurs, the plant is called Anancia, the origin of the modern French name Avance and our Avens; and most probably Dr. Prior is right in his suggestion that this name was the Greek ’εναντία, enantia, an antidote.

The aerial stem in this species is round and softly hairy and rises erect to a height of from one to three feet, branching slightly above, and bearing a cymose succession of flowers. The radical leaves have long stalks and are lyrately and interruptedly pinnate, the large terminal leaflet being round, lobed, and crenate. The veins are prominent on the under surface. The cauline leaves are shortly stalked and often ternate, but vary considerably in their lobing; and their large stipules are leaf-like, lobed, and toothed.

The flowers are erect, on slender stalks, and but little more than half an inch in diameter. The epicalyx and calyx are green and become reflexed in the fruit stage; whilst the spreading, bright yellow, obovate petals are about as long as the sepals. The crowded stamens and the stigmas reach maturity at about the same time, or the latter a little in advance; and, as in the case of the Tormentil, the flowers are stated to secrete more honey in the North than with us. Some flowers are occasionally entirely staminate.

The flowers are succeeded by a conspicuous chestnut-brown bur, the development of which is extremely curious. The numerous carpels are borne on a flat, or only slightly projecting, hairy receptacle, and their ovaries are also thickly covered with hairs. The terminal styles are at first straight; but later a projection springs from each a little below its apex and elongates in an upward curve, ending in the stigmatic surface. The apex of the original style then bends over the base of this projecting portion. In this species the upper joint has a few minute hairs at its base and reaches a length of about half an inch, which is considerably less than that of the main body of the style. After fertilisation the base of the style becomes dry and rigid, while the upper joint shrivels and becomes detached at its base, leaving the extremity of the original style as a strong, sharp hook. The one-seeded achenes are so arranged on the receptacle that these hooked awns, as they are sometimes termed, spread outwards almost in a sphere, whilst the attachment of the ripe carpel at its base is but loose. This arrangement thus forms a most effective bur, the hooks catching in the fur of any passing animal of a height of one or two feet from the ground, as they do in the clothes of any human being, and the carpels being thus carried either singly or collectively to a distance.

Such elaborate adaptations for the dispersal of seed - whether by wind, for which purpose we find various forms of wings and parachute-like plumes of hair, or, as here, by animals, for which there are countless varieties of bur and of attractive succulence - are, perhaps, more variable within the limits of single genera than are the equally elaborate contrivances for pollination by wind or by insects. To the evolutionist this would suggest that they are of more recent geological date.

G. rivale (Water Avens)

1914 Boulger, vol. 2

CXXV.- THE WATER AVENS.

Geum rivale Linne.

THE Water Avens (Geum rivale Linne) is a less common, but far more attractive, plant than Geum urbanum. Geographically it has, it is true, a wider range, existing in South America and in Australasia, where the more abundant species is unknown. It is more common in the North, and it extends to higher altitudes by the sides of Highland streams; but, though locally abundant, it is less generally distributed within the limits of the countries in which it occurs. Though not apparently very particular as to soil, being found on rich alluvial loams, on siliceous and on calcareous sub-soils, the fact that it is more frequent by running water than in stagnant marsh ground suggests that it prefers neutral soil-water to any that is acid. It seems certainly to prefer shade, since not only does it grow commonly by streams passing through copses, but when, with Forget-me-not and Golden Saxifrages, it follows the rivulet out into the open it is commonly overtopped by taller plants, by the big leaves of Caltha palustris, by Meadow-sweet, Hemp Agrimony, Valerian, Yellow Meadow-rue, or Globe-flower.

Its larger, blackish, woody, deep-growing rhizome shares the aromatic astringency of the other species (G. urbanum), so that, like it, it has been employed as a preservative flavouring for beer, and is said to be valued in North America as a tonic and febrifuge [ed: dispels fevers]. The aerial stem seldom exceeds a foot in height and is but little branched: its lower portion bears soft reflexed hairs; while above it is more densely covered with a shorter pubescence.

The radical leaves are stalked and lyrately interruptedly pinnate, the very large terminal leaflet being rounded, lobed, and sharply crenate. The stem leaves are few in number, stalked and ternate, with small ovate toothed stipules, which are often tinged with red. In texture the leaves are thinner and softer than those of G. urbanum.

As the flower-bud expands, during the summer months, it bends gracefully downwards, thus protecting its pollen and honey from the rain; whilst, as the fruit forms, the peduncle resumes its erect position. The richly-coloured, long-pointed, brownish-red, downy sepals spread widely in their broad, flat basal cup and then grow upward to the extreme level of the tops of the petals; and at a later stage embrace the fruit. Wellnigh indescribable is the colouring of the broad, obcordate petals. Opening a pale green, they flush with pink and then become, as it were, tanned with a tawny yellow-brown with strongly marked darker reddish veins. The erect position of these petals and the stamens crowded round the honey-secreting ring probably restrict the honey to rather long-tongued insects; and, as the anthers are seldom mature until after the stigmas, cross-pollination is probably the rule.

The head of achenes is raised on an axis or carpophore almost as long as the sepals. The achenes themselves and the bases of the styles are hairy: higher up, there are shorter glandular hairs; but below the attachment of the upper joint the styles are glabrous. The two joints are nearly equal and the lower part of the deciduous upper joint is very hairy.

These characters serve to explain the names given to the plant by the older botanical writers, all of whom, before Linnaeus, knew it as Caryophyllata. Thus Lobel called it Caryophyllata septentrionalium rotundifolia, papposo flore, or “Round-leaved Clove-root of the north with a pappose flower.” Clusius named it Caryophyllata montana, nutante flore, or “Mountain Clove-root with a nodding flower”; Camerarius terms it Caryophyllata aquatica, or “Water Clove-root”; and Johnson, Caryophyllata montana purpurea, or “Red-flowered mountain Clove-root.”

We well remember, thirty years ago, our pleasure in finding a double redder-flowered variety growing by the Water of Leith just where it winds out into the more level ground after leaving the Pentland Hills. This variation is stated by Sir James Edward Smith to be not infrequent in mountainous countries and to be “readily produced by transplanting the wild roots into a dry gravelly soil.” The carpophore is also often elongated, when the sepals become more leafy. This variety is entirely distinct from the Geum intermedium of Ehrhart, which is almost certainly a hybrid, resulting from the pollination of the stigmas of G. rivale with the pollen of G. urbanum. It has much of the habit of G. rivale; but with a more deeply cut terminal leaflet, larger cauline leaves and stipules, green calyx and yellow petals, larger than those of G. urbanum, but not so large as those of G. rivale. Sir James Edward Smith says that he suspected that it “might be a variety of rivale, caused by the pollen of urbanum”; and the fact that it is found not infrequently associated with G. rivale but not with G. urbanum renders this parentage more probable than the reciprocal cross, i.e. the pollinating of G. urbanum by G. rivale. The crossing of G. rivale by G. urbanum is said to have been produced artificially, and the hybrids are reported to have proved fertile. The chief difficulties as to this hybridism being produced by insects is the want of similarity in the colour of the flowers of the two parent species; but there may be an identity in the smell of their nectar which is perceptible to the insect’s sense of smell, though not to ours.

A considerable number of more showy species of Geum are cultivated in our borders and rock-gardens, several of them having large semi-double blossoms of a brilliant scarlet, or feathery-tailed heads of achenes of a purple or reddish-brown colour. The best are, perhaps, the alpine G. montanum Linne, sometimes placed in another genus Sieversia; G. coccineum Sibthorp and Smith, from the Balkan Peninsula; and G. chiloense Balbis from the island of Chiloe.

Dryas octopetala (Mountain Avens)

1919 Horwood, vol. 4

Oak-leaved Mountain Avens (Dryas octopetala, L.)

Remains of this rare but Interesting plant are found In Late Glacial beds in Edinburgh and Perth. It Is found in the Arctic and Alpine regions of the North Temperate and Arctic Zones. In Great Britain it occurs In Stafford, Carnarvon, York (Mid, W., and N.W.), Westmorland, Mid and East Perth, Forfar, South Aberdeen, Easterness, Argyle, Cantire, North Ebudes, West Ross, Sutherland, Orkney, that is from Carnarvon and Stafford to Orkney, ascending to 2700 ft. and descending to the sea-level in N. and W. Ireland.

The Oak-leaved Mountain Avens is a local plant, which Is restricted in England and Scotland to the mountain ridges of the Pennine and Highland groups, where it grows on rocky heights, mainly limestone rocks. The Gentians, Saxifrages, and other rare alpine and subalpine species are found in the same spots.

This rare alpine flower, like many others that adorn the hills, is dwarf but delicate and has a large and beautiful flower. From the resemblance of the leaves to those of the Oak, on a small scale, Linnaeus gave it the first Latin name. The leaves are stalked, oblong, toothed irregularly near the base of the stem, and woolly.

The flowers are large, with white petals, and, as indicated by the second Latin name, these are eight in number. The sepals are long, and covered with black, glandular hairs, like the scapes, which are also hairy and glandular.

This choice little plant is never more than 9 in. in height. It is in flower in June, July, and August. It is a perennial and propagated by division. One may find it in many rock-beds in the garden.

The Mountain Avens is androdioecious. The hermaphrodite flowers are usually feebly proterogynous like Avens, the stigmas maturing first. The stigmas rise when the flower opens, are sometimes covered over by the inner stamens even for some time after the outer anthers have opened (* The outer open first, and insect visitors touch the stigmas and anthers on either side, and establish crossing. When no visitors occur the styles bend outwards and touch the inner anthers, and self-pollinalion occurs from this cause and the later pendent position of the flower.), and these flowers are proterandrous, the anthers ripening first. The flowers are large and contain honey, which is concealed.

Long hairs are developed on the fruit as a feathery down to aid in dispersal by the wind. The carpels are numerous.

This handsome species is a rock plant, being found only on limestone rocks, and is therefore a lime-loving plant.

A moth, Grapholitha complana, is the only insect which infests it.

Dryas, Linnaeus, is from the Greek, drus, oak, to which its leaves have a resemblance. The second Latin name refers to a characteristic of the flower, which has 8 petals.

The plant is called Mountain Avens and Wild Betony.

Essential Specific Characters:-

96. Dryas octopetala, L. - Stem decumbent, woody, leaves stalked, downy white below, oblong, crenate, flowers white, petals 8, sepals equal 8, achenes with feathery awn.

1914 Boulger, vol. 2

CXXVI.- THE MOUNTAIN AVENS.

Dryas octopetala Linne.

THE vivid greenness of their compact cushions of foliage, early in the year, and their many, and relatively large, gaily-coloured blossoms closely nestling among the leaves, have not unnaturally brought about a cult for alpine plants among garden-lovers. They are seen at their best when, in their natural surroundings, their roots or rhizomes holding fast in some hidden crevice through which trickles the melting snow, they cling to some steeply sloping surface of bare grey rock in what the ecologist terms an open community of chomophytes. In winter - for they are almost always perennial - they may be sufficiently protected from frost by the snow that drifts on to the rock-ledges: their habit of growth enables them to defy the fierce winds to which they are constantly exposed; and they rejoice in the full glare of the sun, which they can utilise, when it is at its lowest altitudes, to unfold their blossoms and to ripen their fruit. The species that can endure these conditions are not numerous; and the small modicum of soil which even they require will not apparently support many individuals. Their struggle for existence, in fact, is rather a struggle against physical disabilities than against competing plants; and this is what is implied when these chomophytes, or screes-plants, are said to be in an open community. Their conspicuous flowers often produce more or less concealed honey, so as only to reward the visits of long-tongued insects, such as the butterflies, which frequent greater altitudes in the mountains than any other group of insects. There are, however, wind-pollinated Rushes among their associates, and Dwarf Willows that occupy a physiologically intermediate position. It is not because the situation of these alpine chomophytes is deficient in water-supply that their leaves exhibit xerophytic [ed: dry] adaptations; but rather, perhaps, that the low temperature of the soil-water largely inhibits the absorptive action of their roots. Transpiration has, therefore, to be lessened, and the leaves have accordingly a leathery texture with thick epidermis and hypodermis and with stomata, or transpiration-pores, sunk below the general level of their surface or protected by dense woolly hairs. A polished upper surface and a serrate margin are, perhaps, protections against the prolonged adhesion of the crystals of snow.

Among British plants there is no more typical or more beautiful a representative of this alpine type than Dryas octopetala Linne. Though Petiver apparently applied the English name Mountain Avens to Geum rivale, it would seem to belong yet more appropriately to this species.

The genus to which it belongs is a small one, consisting but of two or three species; but well distinguished from Geum by its simple leaves, solitary flowers, the absence of an epicalyx, and the styles which have no articulation but grow out into long feathery awns, as in Clematis and Anemone Pulsatilla. This last character is one of the many interesting parallelisms between the Rosaceae and the Ranunculaceae. In distribution the genus is distinctly “Arctic-alpine,” extending from Spitzbergen and Iceland to the mountains of Macedonia and Dalmatia, the Alps and the Pyrenees, and into corresponding latitudes in North America; but not into the Mediterranean peninsulas. Our own species does not occur south of Staffordshire in Britain and reaches altitudes of 2,700 feet in Scotland, while it descends to sea-level in the north and west of Ireland. It is

equally at home on the mica-schists of Scotland and on the limestones of West Yorkshire and Ireland.
The oak-like outline of the leaves attracted the attention of early writers. Clusius, Lobel, and Dalechamps call it Chamaedrys (from the Greek χαμαί, chamai, on the ground; δρυς, drus, an oak), a name which we retain as a specific name for species of Veronica and Teucrium with leaves of a similar outline; while Linnaeus gave it the more poetical Dryas, from the Greek Δρυάς, Druas, a Dryad, or nymph of the oak-woods. The large delicate white blossoms with their numerous golden anthers certainly resemble those of the Cistus, so that Clusius's full name for the plant was Chamaedrys alpina, cisti flore, "the alpine Ground-oak with the flower of a Cistus "; while Johnson, relying mainly on leaf form, placed it under Teucrium as Teucrium alpinum, cisti flore. The acumen of Robert Morison placed it near Geum under the name Caryophyllata alpina, chamaedryos folio, "Alpine Clove-root with the leaf of a Ground-oak."
It is certainly characteristic of the genus to have both the slender stipules and the long leaf-stalks hairy and the under surface of the leaves of a hoary whiteness, and to have the number of leaves in both perianth-whorls increased above five; but those of the calyx are all in one whorl, so that there is no indication of an epicalyx. Though eight leaves is the rule in our species, nine frequently occur. The beautiful white petals of our British species are replaced in the North American Dryas Drummondi Richardson by golden yellow ones. In the Alps Dryas octopetala is androdioecious, i.e. some plants bear flowers that are entirely staminate [ed: male].
Though the crowded stamens conceal the honey on the concave hairy receptacle, and there is sometimes some difference in the period of maturation of the anthers and stigmas, self-fertilisation can readily occur, if insect visits fail. After flowering, the peduncle lengthens considerably; and the dense head of feathery awns from one to two inches long may obviously prove of service in the dissemination of the seed. Glandular hairs on flower-stalk and sepals may be a protection against unbidden guests, i.e. crawling, honey-robbing insects useless as fertilisers.

Taxonomic Names

Src: BSBI Maps/List

Dryas L. -- Mountain Avens
Dryas octopetala L. -- Mountain Avens

Geum L.
Geum aleppicum Jacq.
Geum 'Bell Bank'
Geum 'Blazing Sunset'
Geum 'Borisii'
Geum chiloense Balbis Avens
Geum chiloense 'Mrs J. Bradshaw'
Geum coccineum Sibth. & Sm.
Geum coccineum 'Koi'
Geum coccineum 'Queen of Orange'
Geum macrophyllum Willd. -- Large-leaved Avens
Geum macrophyllum x urbanum = G. x convallis M.P.Wilcox
Geum quellyon Sweet -- Scarlet Avens
Geum 'Red Wings'
Geum reptans L.
Geum rivale L. -- Water Avens
Geum rivale x urbanum = G. x intermedium Ehrh. -- Hybrid Avens
Geum urbanum L. -- Wood Avens

References and Further Reading

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